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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,958	06/24/2003	Yixin Yao	10541-1722	1197
7590	06/18/2004		EXAMINER	
Lawrence G. Almeda BRINKS HOFER GILSON & LIONE P.O. Box 10395 Chicago, IL 60610			MARC COLEMAN, MARTHE Y	
			ART UNIT	PAPER NUMBER
			3661	

DATE MAILED: 06/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Applicant No.	Applicant(s)
	10/602,958	YAO ET AL.
	Examiner Marthe Y Marc-Coleman	Art Unit 3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 6/24/03.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-21 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-21 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

1. This office action is in response to Application Serial No. 10/602,958 filed on June 24, 2003 in which claims 1-21 are presented for examination.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 7, 9, and 13 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The variables  $z$ ,  $y$  and  $z$  are not *described in the claims and specification*. In addition  $\dot{x} \in R^n$ ,  $y \in R^p$ , and  $z \in R^q$  and  $d \in R^n$  are not part of the three equations of claim 7. Correction and clarification are required.

The variables of claims 7, 9, and 13 need to be defined in *the claims and in the specification*. Correction is required.

4. Claims 1-21 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1, 4, 79, 13, and 19 are indefinite because:

- a. "***the steer-by-wire closed-loop system***" lacks proper antecedent basis in claim 1 line 6.
- b. "signals from ***vehicle***" lacks proper antecedent basis in claim 1 line 11. It is unclear as to whether or not Applicant is referring to the same vehicle mentioned prior in the preamble.
- c. "***the mathematical model***" lacks proper antecedent basis in claim 1 line 13.
- d. "***the estimation*** for input signals, output signals ...." lacks proper antecedent basis in claim 1 line 14.
- e. "***the residual generator***" lacks proper antecedent basis in claim 1 line 16.
- f. "***the model variables***" lacks proper antecedent basis in claim 4 line 3.
- g. "***the modeling errors***" lacks proper antecedent basis in claim 6 line 4.

As per claim 7, the variables z, y and z are not *described in the claims and specification*. In addition  $\dot{x} \in \mathbb{R}^n$ ,  $y \in \mathbb{R}^p$ , and  $z \in \mathbb{R}^q$  and  $d \in \mathbb{R}^n$  are not part of the three equations of claim 7. Correction and clarification are required.

The variables of claims 7, 9, and 13 need to be defined in the claims and in the specification. Correction is required.

Dependent claims not specifically rejected are rejected as being dependent upon a rejected base claim.

***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marthe Y Marc-Coleman whose telephone number is (703) 305-4970. The examiner can normally be reached on Monday-Thursday from 9:30 AM - 8:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tomas G Black can be reached on (703) 305-8233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner  
*Marthe Y. Marc-Coleman*  
Marthe Y. Marc-Coleman

June 10, 2004